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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,039

05/10/2006

Daniel Hendrix

016906-0512

4979

22428 7590 07/06/2009  
FOLEY AND LARDNER LLP  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

WALBERG, TERESA J

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

07/06/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,039	<b>Applicant(s)</b> HENDRIX ET AL.	
	<b>Examiner</b> Teresa J. Walberg	<b>Art Unit</b> 3744	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                |                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                               | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                           | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/22/09</u> | 6) <input type="checkbox"/> Other: _____                                                |

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 22 April 2009 has been entered.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-7, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitriou (4,572,766) in view of Blomgren (WO 03/01010482)(cited by applicant in the IDS of 10 May 2006).

Dimitriou discloses a heat exchanger including a plurality of disks (Fig. 7) with two adjacent disks defining an intermediate space through which a heat exchange medium flows (see abstract), the entry and/or exit region of the heat exchange medium is expanded (interpreted to mean wider than tall) on the discharge or inflow side (24 in Fig. 3), an opening (24) for the second medium is located in an end region of the disks (Fig. 3) and extends over essentially an entire surface of the end region (Fig. 3), heat exchanger passages (32, 33) are

located in the end region of the disks so that they (32, 33) are offset axially in an axial direction of the disks (see Fig. 3) from the opening for the second medium (24) and are located further inward from the end of the disks than the opening for the second medium (see Fig. 3), the region runs at least over a third of the width of the disk perpendicularly to the average flow direction (24 in Fig. 3), with at least two heat exchanger medium passages being provided per inlet or outlet (Fig. 7), the disks being of axially symmetrical design (Fig. 7).

Dimitriou does not disclose the heat exchanger being a charge air coolant radiator or oil cooler. However, charge air coolant radiators and oil coolers are conventional in the art. It would have been obvious in view of to one of ordinary skill in the art to use the heat exchanger of Dimitriou as a charge air coolant radiator or oil cooler, the motivation being to bring the fluids in question to a desired temperature.

Dimitriou does not disclose at least a portion of the heat exchanger medium passages located behind at least a portion of the opening for the second medium.

Blomgren discloses a heat exchanger including at least a portion of the heat exchanger medium passages (1) located behind at least a portion of the opening (4) for the second medium.

It would have been obvious in view of Blomgren to provide at least a portion of the heat exchanger medium passages located behind at least a

portion of the opening for the second medium in the heat exchanger of Dimitriou, the motivation being to enable making the device more compact.

4. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitriou (4,572,766) in view of Blomgren (WO 03/01010482) and further in view of Voss (US 5,230,966).

Dimitriou discloses a heat exchanger having the claimed structure with the exception of the heat exchanger medium inlet or outlet having a branching or junction and the branching being in the shape of an arc of a circle and having a bend of 30 to 90 degrees.

Voss discloses a heat exchanger of disk type construction having a heat exchanger medium inlet or outlet having a branching or junction and the branching being in the shape of an arc of a circle and having a bend of 30 to 90 degrees (see 61 in Fig. 4).

It would have been obvious to one of ordinary skill in the art in view of Voss to provide the heat exchanger medium inlet or outlet having a branching or junction and the branching being in the shape of an arc of a circle and having a bend of 30 to 90 degrees in the heat exchanger of Dimitriou, the motivation being to provide a more even fluid flow across the plate.

5. Applicant's arguments filed 22 April 2009 have been fully considered but they are not persuasive.

Applicant argues that claim 13 is separately patentable because Dimitriou does not teach use of the device as a charge air cooler or an oil cooler.

However, patentability of an apparatus cannot be based on its intended use. It is further noted that the use of heat exchangers as charge air coolers or oil coolers is conventional in the art.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa J. Walberg/

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Primary Examiner, Art Unit 3744

/TW/

Receipt date: 04/22/2009

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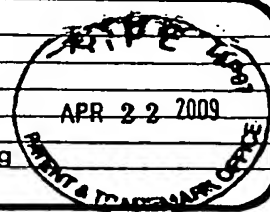
PTO/SB/08 (09-06)

Approved for use through 03/31/2007. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  Date Submitted: April 22, 2009  <i>(use as many sheets as necessary)</i>			<b>Complete if Known</b> Application Number: 10/579,039 Filing Date: 11/10/2004 First Named Inventor: Daniel HENDRIX Art Unit: 3744 Examiner Name: Teresa J. Walberg Attorney Docket Number: 016906-0512		
Sheet	1	of	1		



U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	6,293,337 B1	09-25-2001	STRÄHLE et al.	

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Application Document Serial Number-Kind Code <sup>2</sup> (if known)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A2	DE 198 33 338 A1	01-27-2000	MODINE MFG. CO.	
	A3	EP 1 281 921 A2	02-05-2003	INGERSOL-RAND ENERGY SYSTEMS CORPORATION	
	A4	WO 00/46564 A1	08-10-2000	LONG MFG. LTD.	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>

Examiner Signature	/Teresa Walberg/	Date Considered	07/04/2009
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.V